

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) RFID apparatus with an antenna comprising:

a transmitter operative to transmit an a first RF signal via the antenna to an external tag device;

a receiver operative to receive a ~~modulated~~ second RF signal from the external tag device via the antenna; and

~~a demodulator operative to demodulate a received modulated signal;~~

~~wherein the apparatus comprises a tag emulation generator operative to generate a third RF signal dependent on an upon characteristics of an incoming fourth RF signal received from an external reader device, said incoming RF signal being generated by different apparatus, and wherein the apparatus is arranged to transmit said the generated third RF signal such that said generated RF signal interferes with the incoming RF signal using the antenna to the external reader device.~~

2. (Original) RFID apparatus according to claim 1, wherein said generator comprises a phase sensitive detection system responsive to phase in said incoming RF signal.

3. (Original) RFID apparatus according to claim 2, wherein said generator comprises a phase locked loop.

4. (Original) RFID apparatus according to claim 3, wherein the phase locked loop is a second order loop.
5. (Original) RFID apparatus according to claim 3, wherein the phase locked loop comprises a loop filter.
6. (Original) RFID apparatus according to claim 3, wherein the phase locked loop comprises a sample and hold circuit.
7. (Original) RFID apparatus according to claim 1, wherein said apparatus is arranged to modulate said generated RF signal prior to transmission of said generated RF signal.
8. (Original) RFID apparatus according to claim 1, wherein the apparatus has a first mode of operation and a second mode of operation, wherein the apparatus is arranged such that: during said first mode, the apparatus can transmit an RF signal to a first external device and can receive a modulated RF signal from said first external device; and during said second mode, the apparatus can generate an RF signal dependent upon an incoming RF signal received from a second external device, and transmit said generated RF signal to said second external device.
9. (Original) RFID apparatus according to claim 8, wherein the first and/or second mode of operation is independently selectable.

10. (Original) RFID apparatus according to claim 9, wherein the mode of operation is selected in dependence on detection of an externally generated RF signal

11. (Original) RFID apparatus according to claim 8, wherein the apparatus has a default mode of operation, and wherein the default mode of operation is said first mode of operation.

12. (Original) RFID apparatus according to claim 8, wherein the apparatus has a default mode of operation, and wherein the default mode of operation is said second mode of operation.

13. (Original) RFID apparatus according to claim 1, wherein said apparatus comprises an antenna used commonly to both receive said modulated RF signal and to transmit said generated RF signal.

14. (Original) RFID apparatus according to claim 13, wherein said antenna comprises an inductive coupling antenna.

15. (Original) RFID apparatus according to claim 1, wherein said apparatus comprises a modulator operative to modulate a carrier signal.

16. (Original) An electrical device incorporating an RFID apparatus according to claim 1.

17. (Original) An electrical device according to claim 16, wherein such electrical device

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is a mobile communications device, personal computer device, electronic wallet or purse, a vending machine, a watch, an ID device, an electronic ticket device, an access and entry system, a patient identification device or a medical device.

18. (Currently Amended) Radio frequency apparatus with an antenna comprising: ~~both~~

a tag emulating circuit operative to respond to an external radio frequency reader apparatus; and

a reader circuit operative to operate as a radio frequency reader device,

wherein the tag emulating circuit and the reader circuit share the antenna.

19. (New) RFID apparatus according to claim 1, wherein the generated third RF signal interferes with the incoming fourth RF signal.